

REMARKS

A. Applicants thank the Examiner and his supervisor for the very helpful telephonic interview conducted on October 3, 2003. Enclosed herewith is Applicants' Statement of Substance of Interview.

B. Claims 10-24 are all the claims pending in the application; claims 11-14, 16-19 and 21-24 have been withdrawn from consideration; and claims 10, 15 and 20 have been rejected.

After entry of this amendment, claims 1-24 will be cancelled, and new claims 25-34 will be pending.

Support in the specifications for methods of identifying modifiers of potassium channel protein activity (claims 25-27) may be found generally at pages 23-24, and in the specific methods described at pages 24-27.

Support in the specification for claim 28, particularly for "test compounds," is found at page 24, lines 1-15.

Support in the specification for claims 29-31 is found at page 24, line 22, through page 25, line 14, describing the detecting step.

Support in the specification for claim 32 is found at page 25, line 15, through page 26, line 11, describing the detecting step.

Support in the specification for claim 33 is found at page 26, line 12, through page 27, line 6, describing the detecting step.

Support in the specification for claim 34 is found at page 26, line 12, through page 27, line 6, describing the detecting step.

No new matter has been added. Entry of the amendment is earnestly solicited.

I. Formal Matters

A. At paragraph 2 of the Office Action, the Examiner states that the title of the application is not descriptive and requires a new title.

In response, Applicants include herewith an amendment to the title, replacing the original title with a more descriptive title.

In view of the amendment to the title, Applicants respectfully request acknowledgement that the new title is adequately descriptive.

B. At paragraph 3 of the Office Action, the Examiner states that Applicants are required to update the allowed patent information.

In response, Applicants include herewith an amendment to the specification to update the related application information on the first page of the present application, noting that the parent application (09/600,776) has now issued as U.S. Patent No. 6,326,168.

In view of the amendment, Applicants respectfully request acknowledgement that the reference to the priority data is appropriate and sufficient.

C. At paragraph 4 of the Office Action, the Examiner states that the subject matter of this application requires the submission of a drawing to aid in the understanding of the invention.

In response, Applicants include herewith six sheets of drawings (Figures 1-8). Applicants note that the drawings are the same as those in the parent application, and the disclosure of the parent application has been incorporated by reference into the instant application (see page 1, lines 1-2, of the specification), thus no new matter is being introduced. Applicants neglected to include the drawings with the Request for Continuation Application filed on October 1, 2001. A Brief Description of the Drawings section may be found at pages 30-31 of the specification.

Applicants respectfully request entry of the drawings.

II. Rejection Under 35 U.S.C. §112

- A. At paragraph 5a of the Office Action, claims 10, 15 and 20 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite.

The Examiner states that the term “index of modification” is vague and indefinite as it is not defined in the specification, and it is unclear how an index of modification of a potassium channel protein may be affected in response to a physiological characteristic of the potassium channel.

Applicants have cancelled claims 10, 15 and 20, and replaced them with new claims 25, 26 and 27 (corresponding to claims 20, 10, and 15, respectively). Since new claims 25, 26, and 27 do not use the term “index of modification,” Applicants assert that the new claims are not indefinite and respectfully request that this rejection be withdrawn.

- B. At paragraph 5b of the Office Action, claims 10, 15 and 20 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite.

The Examiner states that the cited claims omit essential steps, and specifically that there is no correlation between the modification and measuring the index. The Examiner also states that it is unclear what index is measured and how this index is measured, and unclear as to a base-level activity.

In response, Applicants introduce new claims 25-34 wherein a step of “measuring the index” is not recited, and the subject matter of the claims is more clearly recited. Moreover, in the new claims an indication of the status of the potassium channel proteins is included as suggested by the Examiner during the telephonic interview on October 3, 2003. Furthermore, all steps required to practice the claimed method are set forth in the new claims.

In view of the new claim set, Applicants assert that the new claims are definite as written, and therefore respectfully request that this rejection be withdrawn.

C. At paragraph 6a of the Office Action, claim 10 is rejected under 35 U.S.C. §112, first paragraph, as lacking adequate written description.

The Examiner states that while the specification discloses polynucleotides encoding a potassium channel protein of SEQ ID NO:1 or 5, or a degenerate with respect to these polynucleotides, the specification does not disclose all of the polynucleotide sequences that hybridize to SEQ ID NO:1. The Examiner also contends that the specification does not define what is meant by the generic term “potassium channel protein,” and the specification discloses potassium channel polypeptides encoded by SEQ ID NOS:1 and 5, and degenerate variants only. The Examiner further states that there is no description of the physiological characteristics that make a protein a potassium channel.

Applicants assert that new claim 26 satisfies the written description requirement. The “stringent conditions” recited in claim 26 are disclosed at page 10, lines 4-18, and claim 26 is written to make clear that the complement polynucleotide is a complement of a polynucleotide encoding a potassium channel protein. Accordingly, Applicants assert that claim 26 satisfies the written description requirement, and respectfully request that this rejection be withdrawn.

D. At paragraph 6b of the Office Action, claims 10, 15 and 20 are rejected under 35 U.S.C. §112, first paragraph, as being non-enabled.

The Examiner states that while the specification is enabling for measuring channel activity of potassium channels, it does not reasonably provide enablement for modifying the

activity of a potassium channel protein in response to a physiological characteristic of the potassium channel protein.

In response, Applicants note that new claims 25-34 are directed to identifying a modulator of an active potassium channel protein. Thus, the claims no longer recite a method for "modifying the activity of a potassium channel protein in response to a physiological characteristic of the potassium channel protein." Applicants further assert that a skilled artisan would be enabled to practice the full scope of the invention as set forth in the new claims.

In view of these comments, and the new claims, Applicants respectfully request reconsideration and withdrawal of this rejection.

III. Conclusion

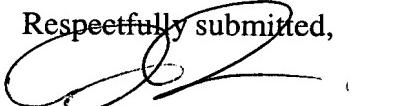
In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

AMENDMENT UNDER 37 C.F.R. §1.111
U.S. Appln. No. 09/965,830

Q66067

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,


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